including the step of directing a portion of the gas flowing from said gas reservoir and through said gas delivery conduit pipeline to said satellite assembly, with said gas flow in said gas delivery system being free of a heat exchanger member driven by a thermal machine and without substantially disturbing the flow of gas through said delivery conduit pipeline to each customer, with said satellite assembly having a capacity of between about 1 to 10 megawatts to generate electrical power without the combustion of gas.

10. (Sixth Amendment) A satellite assembly for generating electrical power without the combustion of gas and structurally associated with a gas distribution network having a first pipeline reservoir of gas at a pressure greater than the gas within a second conduit delivery pipeline which delivers the gas to a customer, said satellite assembly utilizing a portion of said gas flowing through said second conduit delivery pipeline, with said second conduit delivery pipeline being free of a heat exchanger member driven by a thermal machine, by directing a portion of the gas flow passing through said second conduit delivery pipeline through said satellite assembly comprised of an expander, a shaft, an electrical generator having a capacity of between about 1 to 10 megawatts operatively associated with said shaft which produces electrical power as a result of directing a portion of gas flowing from said second delivery conduit pipeline through said expander without the combustion of gas, and control means for operating said satellite assembly during the generation of electrical power.

REMARKS

Applicant has amended claims 1 and 10 to improve the form of the claims, it is respectfully submitted, and to clearly distinguish the present invention over the cited prior art.

.Accordingly, it is believed that claims 1-6, 10-12 and 15-16 are now in condition for allowance.

Applicant has amended claims 1 and 10 to improve the readability of the claims and to clearly distinguish the claimed invention from the Examiner's prior art. Suffice to say, the present claimed method of generating electrical power is simply not obvious upon an examination of the Examiner's prior art for the following reasons.

In addition to the comments made by Applicant in the preliminary amendment filed in this action on January 10, 2001, and the earlier filed remarks and arguments presented in the preliminary amendment filed January 7, 2000 and the amendment filed on July 20, 2000, it is important to understand that Grennan U.S. Patent 5,634,340 patent discusses in column 1, lines 31 to 52, the status of, and problem associated with, the utility industry utilizing in electric transmission and distribution systems. The problems and shortcomings of the prior art in generating power using compressed air energy storage are also summarized. Also, suffice to say, the '340 invention is directed to a process for the cogeneration of power which is comprised of compressing a gas during off-peak electricity utilization and the generation of electrical power during peak electricity utilization. The structure required by Grennan to accomplish his generation and compression of power utilizes the structure is described in FIGS. 1 and 2. There, an expansion train is required to generate electricity and a compression train is required to compress a gas into storage.

The Examiner has taken the position that the embodiment of FIG. 2 of Grennan does not require the combustion of gas during the generation of electrical power and that such a teaching teaches an arrangement where natural gas is transported at high pressure over long distances and then depressurized when the gas reaches its region of use and then distributed

through a plurality of distribution lines. The Examiner erroneously concludes that such distribution lines may be interpreted as "satellites" to render obvious the present claimed invention. However, FIG. 1 requires a motor generator driven by the expansion train, as well as having the motor generator coupled to the compression train. In FIG. 2 of the '340 patent, the gasses are withdrawn from the transmission line, depressurized and carried to end users. Also, as pointed out in column 6, lines 54 et seq., the incoming gas from the low pressure distribution line enters the compression train to undergo compression wherein it is finally deposited in the high pressure transmission line 132. Finally, it is required column 7, lines 31 and 32, that, as in FIG. 1, the expansion and compression trains of FIG. 2 are both coupled to motor/generator 166.

To understand this restricted teaching with respect to the present invention, the discussion of the background of the prior art on pages 1-3 of the present application points out that such usage of motors and generators to control the compression stage of a system as well as the utilization of shafts and clutches in the '340 invention is simply antithetical to the claimed present invention. The utilization of clutch arrangements, as noted on page 3, lines 2-7 and the utilization of motor generators for driving the storage compressor on page 3, lines 6-10, results in the expensive generation of electricity with the result of substantial fuel losses. Also on page 4, it is pointed out that such systems, for example, such as Grennan's, is a lock step arrangement wherein compression is limited in time and the generation functions can operate only when the compressing section is shut off.

Finally, from the bottom of page 2 to the top of page 3 of the present application, it is pointed out that the operation of motor driven storage compressors and their functions of compressing air storage and generating electricity, as is true in Grennan's '340 patent, requires

complex clutch arrangements therebetween. See specifically Grennan, column 7, lines 33-48 wherein the compression train and the expansion train are coupled to shafts and clutches. Such complex clutch arrangements require that the unit must be completely shut down to operate these clutch arrangements which further incur losses in operating such systems. Accordingly, these clutch arrangements limit the range of generation to the capacity of the motor generator and significantly diminish the efficiency of such a system for generating electrical power. Indeed, the '340 patent recognizes this deficiency.

Thus, it is respectfully submitted that the '340 patent is not in any manner or means a teaching which renders obvious present claimed method invention nor does it remotely suggest the structure of a satellite assembly which is comprised of an expander, a shaft, and an electrical generator, which accepts a portion of the gas flowing through the conduit delivery pipeline, as required by the present invention. Accordingly, it is respectfully submitted that claims 1-6, 10-12 and 15-16 are in condition for allowance.

Respectfully submitted,

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VERSION WITH MARKING TO SHOW CHANGES MADE

1. (Sixth Amendment) A method of generating electrical power utilizing a satellite assembly without the combustion of gas during the generation of power which utilizes a gas distribution network comprised of a gas reservoir delivery system having a pressure greater than the gas pressure within a gas delivery conduit pipeline to each customer, the method including the step of directing a portion of the gas flowing from said gas reservoir and through said gas delivery conduit pipeline to said satellite assembly, with said gas flow in said gas delivery system being free of a heat exchanger member driven by a thermal machine and without substantially disturbing the flow of gas through said delivery conduit pipeline to each customer, with said satellite assembly having a capacity of between about 1 to 10 megawatts to generate electrical power without the combustion of gas.

10. (Sixth Amendment) A satellite assembly for generating electrical power without the combustion of gas and structurally associated with a gas distribution network having a first pipeline reservoir of gas at a pressure greater than the gas within a second conduit delivery pipeline which delivers the gas to a customer, said satellite assembly utilizing a portion of said gas flowing through said second conduit delivery pipeline, with said second conduit delivery pipeline being free of a heat exchanger member driven by a thermal machine, by directing a portion of the gas flow passing through said second conduit delivery pipeline through said satellite assembly comprised of an expander, a shaft, an electrical generator having a capacity of between about 1 to 10 megawatts operatively associated with said shaft which produces electrical

power as a result of directing a portion of gas flowing from said second delivery conduit pipeline through said expander without the combustion of gas, and control means for operating said satellite assembly during the generation of electrical power.